



PATENT

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In re Application of)
Zack and Kagayama)
Serial No. 10/617,885)
Filed: July 14, 2003)
Examiner: Gemeniano, Malou C.
Group Art Unit: 1632
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For: NEURONAL GENE EXPRESSION PATTERNS

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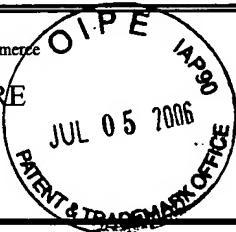
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Attorney Docket No.
001107.00368Serial No.
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U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Country	Class	Subclass	Translation	
						YES	NO

OTHER DOCUMENTS

	Auricchio <i>et al.</i> , "Exchange of surface proteins impacts on viral vector cellular specificity and transduction characteristics: the retina as a model," <i>Human Molecular Genetics</i> 10, 3075-81, 2001
	Bankiewicz <i>et al.</i> , "Convection-enhanced delivery of AAV vector in parkinsonian monkeys; in vivo detection of gene expression and restoration of dopaminergic function using pro-drug approach," <i>Exp. Neurol.</i> 164, 2-14, July 2000 (abstract)
	Biewenga <i>et al.</i> , "Plasmid-mediated gene transfer in neurons using the biolistics technique," <i>J. Neurosci. Methods</i> 71, 67-75, January 1997 (abstract)
	Blesch <i>et al.</i> , "Modulation of neuronal survival and axonal growth in vivo by tetracycline-regulated neurotrophins expression," <i>Gene Therapy</i> 8, 954-60, June 2001 (abstract)
	Blesch & Tuszyński, "GDNF gene delivery to injured adult CNS motor neurons promotes axonal growth, expression of the trophic neuropeptide CGRP, and cellular protection," <i>J. Comp. Neurol.</i> 436, 399-410, August 2001 (abstract)
	Blits <i>et al.</i> , "Pharmacological, cell, and gene therapy strategies to promote spinal cord regeneration," <i>Cell Transplant.</i> 11, 593-613, 2002 (abstract)
	Boviatsis <i>et al.</i> , "Gene transfer into experimental brain tumors mediated by adenovirus, herpes simplex virus and retrovirus vectors," <i>Hum. Gene Ther.</i> 5, 183-91, February 1994 (abstract)
	Breakfield & DeLuca, "Herpes simplex virus for gene delivery to neurons," <i>New Biol.</i> 3, 203-18, March 1991 (abstract)
	Chen <i>et al.</i> , "HSV amplicon-mediated neurotrophin-3 expression protects murine spiral ganglion neurons from cisplatin-induced damage," <i>Mol. Ther.</i> 3, 958-63, June 2001 (abstract)
	Cheng <i>et al.</i> , "Human immunodeficiency virus type 2 (HIV-2) vector-mediated in vivo gene transfer into adult rabbit retina," <i>Curr. Eye Res.</i> 24, 196-201, March 2002 (abstract)
	Davar <i>et al.</i> , "Comparative efficacy of expression of genes delivered to mouse sensory neurons with herpes virus vectors," <i>J. Comp. Neurol.</i> 339, 3-11, January 1994 (abstract)
	de Marco <i>et al.</i> , "MR imaging of gene delivery to the central nervous system with an artificial vector," <i>Radiology</i> 208, 65-71, July 1998 (abstract)

EXAMINER

DATE CONSIDERED

INFORMATION DISCLOSURE

CITATION

Sheet 2 of 5

Attorney Docket No.
001107.00368Serial No.
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U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Country	Class	Subclass	Translation	
						YES	NO

OTHER DOCUMENTS

	Di Polo <i>et al.</i> , "Prolonged delivery of brain-derived neurotrophic factor by adenovirus-infected Müller cells temporarily rescues injured retinal ganglion cells," <i>Proc. Natl. Acad. Sci. USA</i> 95, 3978-83, March 1998
	Eberhardt <i>et al.</i> , "Protection by synergistic effects of adenovirus-mediated X-chromosome-linked inhibitor of apoptosis and glial cell line-derived neurotrophic factor gene transfer in the 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine model of Parkinson's disease," <i>J Neurosci.</i> 2000 Dec 15;20(24):9126-34.
	Fathallah-Shaykh <i>et al.</i> , "Gene Transfer into Brain Parenchyma Elicits Antitumor Effects," <i>Cancer Res.</i> 60, 1797-99, April 1, 2000
	Garcia-Valenzuela <i>et al.</i> , "Axon-mediated gene transfer of retinal ganglion cells in vivo," <i>J. Neurobiol.</i> 32, 111-22, January 1997 (abstract)
	Giehl & Tetzlaff, "BDNF and NT-3, but not NGF, prevent axotomy-induced death of rat corticospinal neurons in vivo," <i>Eur. J. Neurosci.</i> 7, 1167-75, June 1996 (abstract)
	Haas <i>et al.</i> , "Single-cell electroporation for gene transfer in vivo," <i>Neuron</i> 29, 583-91, March 2001 (abstract)
	Hagihara <i>et al.</i> , "Widespread gene transfection into the central nervous system of primates," <i>Gene Ther.</i> 7, 759-63, May 2000 (abstract)
	Han <i>et al.</i> , "Transgene expression in the guinea pig cochlea mediated by a Lentivirus-derived gene transfer vector," <i>Hum. Gene Ther.</i> 10, 1867-73, July 20, 1999 (abstract)
	Hecker <i>et al.</i> , "Nonviral gene delivery to the lateral ventricles in rat brain: initial evidence for widespread distribution and expression in the central nervous system," <i>Mol. Ther.</i> 3, 375-84, March 2001 (abstract)
	Hoffman <i>et al.</i> , "NGF released from a polymer matrix prevents loss of ChAT expression in basal forebrain neurons following a fimbria-fornix lesion," <i>Exp. Neurol.</i> 110, 39-44, October 1990 (abstract)
	Hossain <i>et al.</i> , "Human FGF-1 gene delivery protects against quinolinate-induced striatal and hippocampal injury in neonatal rats," <i>Eur. J. Neurosci.</i> 10, 2490-99, August 1998 (abstract)
	Hughes <i>et al.</i> , "Axotomized septal cholinergic neurons rescued by nerve growth factor or neurotrophin-4/5 fail to express the inducible transcription factor c-Jun," <i>Neurosci.</i> 78, 1037-49, June 1997 (abstract)
	Isenmann <i>et al.</i> , "Short communication: protection of axotomized retinal ganglion cells by adenovirally delivered BDNF in vivo," <i>Eur. J. Neurosci.</i> 10, 2751-56, August 1998 (abstract)
	Johnston <i>et al.</i> , "Delivery of human fibroblast growth factor-1 gene to brain by modified rat brain endothelial cells," <i>J. Neurochem.</i> 67, 1643-52, October 1996 (abstract)
	Joung <i>et al.</i> , "Effective gene transfer into regenerating sciatic nerves by adenoviral vectors: potentials for gene therapy of peripheral nerve injury," <i>Mol. Cells.</i> 10, 540-45, October 2000 (abstract)

EXAMINER

DATE CONSIDERED

INFORMATION DISCLOSURE
CITATION
Sheet 3 of 5

Applicant: ZACK

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U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Country	Class	Subclass	Translation	
						YES	NO

OTHER DOCUMENTS

	Kaspar <i>et al.</i> , "Targeted retrograde gene delivery for neuronal protection," <i>Mol. Ther.</i> 5, 50-56, January 2002 (abstract)
	Kawaja <i>et al.</i> , "Somatic gene transfer of nerve growth factor promotes the survival of axotomized septal neurons and the regeneration of their axons in adult rats," <i>J. Neurosci.</i> 12, 2849-64, July 1992 (abstract)
	Keir <i>et al.</i> , "Adeno-associated virus-mediated delivery of glial cell line-derived neurotrophic factor protects motor neuron-like cells from apoptosis," <i>J. Neuroviol.</i> 7, 437-46, October 2001 (abstract)
	Knight <i>et al.</i> , "Non-viral neuronal gene delivery mediated by the H _C fragment of tetanus toxin," <i>Eur. J. Biochem.</i> 259, 762-69, 1999
	Knusel <i>et al.</i> , "Brain-derived neurotrophic factor administration protects basal forebrain cholinergic but not nigral dopaminergic neurons from degenerative changes after axotomy in the adult rat brain," <i>J. Neurosci.</i> 12, 4391-402, November 1992 (abstract)
	Koliatsos <i>et al.</i> , "Mouse Nerve Growth Factor Prevents Degeneration of Axotomized Basal Forebrain Cholinergic Neurons in the Monkey," <i>J. Neurosci.</i> 10, 3801-13, December 1990
	Kromer, "Nerve growth factor treatment after brain injury prevents neuronal death," <i>Science</i> 235, 214-16, January 1987 (abstract)
	Kugler <i>et al.</i> , "Transduction of axotomized retinal ganglion cells by adenoviral vector administration at the optic nerve stump: an in vivo model system for the inhibition of neuronal apoptotic cell death," <i>Gene Ther.</i> 6, 1759-67, October 1999 (abstract)
	Lachman & Efthathiou, "Utilization of the Herpex Simplex Virus Type 1 Latency-Associated Regulatory Region To Drive Stable Reporter Gene Expression in the Nervous System," <i>J. Virol.</i> 71, 3197-207, April 1997
	Lilley <i>et al.</i> , "Multiple Immediate-Early Gene-Deficient Herpes Simplex Virus Vectors Allowing Efficient Gene Delivery to Neurons in Culture and Widespread Gene Delivery to the Central Nervous System In Vivo," <i>J. Virol.</i> 75, 4343-56, May 2001
	Liu <i>et al.</i> , "Application of recombinant adenovirus for in vivo gene delivery to spinal cord," <i>Brain Res.</i> 768, 19-29, September 12, 1997 (abstract)

EXAMINER

DATE CONSIDERED

INFORMATION DISCLOSURE

CITATION

Sheet 4 of 5

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FOREIGN PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Country	Class	Subclass	Translation	
						YES	NO

OTHER DOCUMENTS

	Lucidi-Phillipi <i>et al.</i> , "TrkB activation is sufficient to rescue axotomized cholinergic neurons," <i>Neuron</i> 16, 653-63, March 1996 (abstract)
	Mandel <i>et al.</i> , "Nerve growth factor expressed in the medial septum following in vivo gene delivery using a recombinant adeno-associated viral vector protects cholinergic neurons from fimbria-fornix lesion-induced degeneration," <i>Exp. Neurol.</i> 155, 59-64, January 1999 (abstract)
	Morse, "Brain-derived Neurotrophic Factor (BDNF) Prevents the Degeneration of Medial Septal Cholinergic Neurons following Fimbria Transection," <i>J. Neurosci.</i> 13, 4146-56, October 1993
	Naldini <i>et al.</i> , "Efficient transfer, integration, and sustained long-term expression of the transgene in adult rat brains injected with a lentiviral vector," <i>Proc. Natl. Acad. Sci. USA</i> 93, 11382-88, October 1996 (presented at a conference held June 9-11, 1996)
	Naldini <i>et al.</i> , "In vivo gene delivery and stable transduction of nondividing cells by a lentiviral vector," <i>Science</i> 272, 263-67, April 12, 1996 (abstract)
	Ogawa <i>et al.</i> , "The Human cGMP-PDE β -Subunit Promoter Region Directs Expression of the Gene to Mouse Photoreceptors," <i>Investigative Ophthalmology & Visual Science</i> 41, 4059-63, December 2000
	Palmer <i>et al.</i> , "Development and Optimization of Herpes Simplex Virus Vectors for Multiple Long-Term Gene Delivery to the Peripheral Nervous System," <i>J. Virol.</i> 74, 5604-18, June 2000
	Pean <i>et al.</i> , "Intraseptal implantation of NGF-releasing microspheres promote the survival of axotomized cholinergic neurons," <i>Biomaterials</i> 21, 2097-101, October 2000 (abstract)
	Perrelet <i>et al.</i> , "IAP family proteins delay motoneuron cell death in vivo," <i>Eur J Neurosci.</i> 2000 Jun;12(6):2059-67 (abstract)
	Sarkis <i>et al.</i> , "Efficient transduction of neural cells <i>in vitro</i> and <i>in vivo</i> by a baculovirus-derived vector," <i>Proc. Natl. Acad. Sci. USA</i> 97, 14638-43, December 19, 2000
	Schneider <i>et al.</i> , "Retargeting of adenoviral vectors to neurons using the Hc fragment of tetanus toxin," <i>Gene Ther.</i> 7, 1584-92, September 2000 (abstract)
	Sinnayah <i>et al.</i> , "Selective Gene Transfer to Key Cardiovascular Regions of the Brain: Comparison of Two Viral Vector Systems," <i>Hypertension</i> 39, 603-08, 2002
	Takei <i>et al.</i> , "Pituitary adenylate cyclase-activating polypeptide promotes the survival of basal forebrain cholinergic neurons <i>in vitro</i> and <i>in vivo</i> : comparison with effects of nerve growth factor," <i>Eur. J. Neurosci.</i> 12, 2273-80, July 2000 (abstract)

EXAMINER

DATE CONSIDERED

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FOREIGN PATENT DOCUMENTS

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OTHER DOCUMENTS

Taylor, "Cell vehicles for gene transfer to the brain," <i>Neuromuscul. Disord.</i> 7, 343-51, July 1997 (abstract)
Terashima <i>et al.</i> , "Retrograde and anterograde labeling of cerebellar afferent projection by the injection of recombinant adenoviral vectors into the mouse cerebellar cortex," <i>Anat. Embryol.</i> 196, 363-82, November 1997 (abstract)
Wilcox <i>et al.</i> , "Nerve growth factor prevents apoptotic cell death in injured central cholinergic neurons," <i>J. Comp. Neurol.</i> 359, 573-85, September 1995 (abstract)
Williams <i>et al.</i> , "Glial cell line-derived neurotrophic factor sustains axotomized basal forebrain cholinergic neurons in vivo: dose-response comparison to nerve growth factor and brain-derived neurotrophic factor," <i>J. Pharmacol. Exp. Ther.</i> 277, 1140-51, May 1996 (abstract)
Williams <i>et al.</i> , "Continuous infusion of nerve growth factor prevents basal forebrain neuronal death after fimbria fornix transection," <i>pnas</i> 83, 9231-35, December 1986
Wu <i>et al.</i> , "An AAV promoter-driven neuropeptide Y gene delivery system using Sendai virosomes for neurons and rat brain," <i>Gene Ther.</i> 3, 246-53, March 1996 (abstract)
Xu <i>et al.</i> , "Polyphosphoester microspheres for sustained release of biologically active nerve growth factor," <i>Biomaterials</i> 23, 3765-72, September 2002 (abstract)
Yasuno <i>et al.</i> , "Nerve growth factor applied onto the olfactory epithelium alleviates degenerative changes of the olfactory receptor neurons following axotomy," <i>Brain Res.</i> 887, 53-62, December 22, 2000 (abstract)
Zhang <i>et al.</i> , "Protective effects of adenoviral cardiotrophin-1 gene transfer on rubrospinal neurons after spinal cord injury in adult rats," <i>Neurotox Res.</i> 2003;5(7):539-48 (abstract)

EXAMINER

DATE CONSIDERED

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